REMARKS

1. STATUS OF THE CLAIMS

Claims 25-40 are pending in the application.

Independent Claim 25 has been amended to further clarify that expressing a protein kinase A (PKA) catalytic subunit reduces angiogenesis by "endothelial cells."

2. ELECTION

Applicant acknowledges the Examiner's comment on Applicant's election of Group I, and election of the species of (a) endothelial cell as a species of cell, and (b) cancer as a species of pathological condition.

3. REJECTION OF CLAIMS 25-40 UNDER 35 U.S.C. § 103(a)

Claims 25-40 were rejected under 35 U.S.C. § 103(a)[1] for alleged obviousness over Kim *et al.* (2000)[2] in view of Kim *et al.* (1997),[3] Srivastava *et al.*,[4] and Mixson.[5] Applicant respectfully traverses in view of the following remarks, and in view of Dr. Varner's attached Declaration.

A. Claims 25-32 Are Non-Obvious

Dr. Varner explains in her Declaration that she is co-author of Kim *et al.* (2000). Although Kim *et al.* (2000) used forskolin and dibuteryl cAMP to inhibit angiogenesis and cell migration, Dr. Varner notes that, up to the instant application's teaching of protein kinase A's (PKA's) role in angiogenesis and apoptosis, the artisan knew "that **not all cAMP-induced effects are mediated by either PKA** or cyclic-nucleotide-gated channels, the only previously known cAMP-target proteins. Several reports have suggested the existence of such pathways . . ."[6] Thus, the artisan knew that the anti-angiogenic effects of forskolin and cAMP that were

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1 Office Action, page 3, 1st full paragraph.
2 Kim *et al.*, J. Biol. Chem. 275:33920-33928 (2002).
3 Kim *et al.*, Biochem. Biophys. Res. Comm. 232:469-473 (1997).
4 Srivastava *et al.*, Mol. Cell. Biol. 18:3509-3517(1998).
5 Mixson U.S. Patent No. 6,080,728 (1997).
6 De Rooij *et al.*, page 476, 2nd column, 3rd paragraph.

observed by Kim *et al.* (2000) could have occurred **"independently of protein kinase A."**[7] Thus, it would not have been obvious to one skilled in the art that Kim *et al.*'s (2000) anti-angiogenic effects by cAMP and forskolin were necessarily mediated by protein kinase A, because of the known existence in the art of **PKA-independent pathways** through which cAMP and forskolin could have acted.

Dr. Varner's Declaration also establishes solid reasons why one of skill in the art would not have combined Kim *et al.* (2000) with the teachings of the remaining references because (a) Kim *et al.* (1997) relates to a **different cell type** (neuroblastoma cells versus "endothelial cells" that participate in the recited angiogenesis) and **different phenomenon** (growth versus the recited angiogenesis), (b) Mixson relates to a **different phenomenon** (tumor growth versus the recited angiogenesis), and (c) Srivastava *et al.* refers to a **different phenomenon** (apoptosis versus the recited angiogenesis).

In view of the above, Claims 25-32 are nonobvious.

B. Claims 33-40 Are Non-Obvious

Dr. Varner's Declaration also provides a solid basis for why one of skill in the art would not have combined the references to arrive at the claims because (a) Kim *et al.* (2000) relates to **different phenomena** (angiogenesis and cell migration versus the recited apoptosis), (b) Kim *et al.* (1997) relates to a **different phenomenon** (growth versus the recited apoptosis), (c) Mixson relates to a **different phenomenon** (tumor growth versus the recited apoptosis), and (d) Srivastava *et al.*'s effects on apoptosis could have occurred via **PKA-independent pathways** that were know to exist at the time of the invention, including via Epac and others. [8]

From the above, Claims 33-40 are nonobvious.

Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 25-40 under 35 U.S.C. § 103(a) over Kim *et al.* (2000) in view of Kim *et al.* (1997), Srivastava *et al.*, and Mixson.

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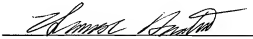
7 De Rooij *et al.*, Abstract.
8 De Rooij *et al.*, Abstract.

CONCLUSION

Having addressed all grounds of rejection, Applicant respectfully requests reconsideration of the application.

Dated: March 20, 2008

By: 

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